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## New Training Methods Speed Pilot Output

The possibility of "washouts" being blamed upon "bad exams", or "change of instructor" is being minimized in the streamlined and expanded pilot training program being conducted by the CAA for the Army, Navy, and Marine Corps.

The "crutch" of the recalcitrant student, that half way through the dual stage a change of instructors made it necessary for him to learn a new flight vocabulary, has been removed by the adoption of a standardized "patter" for flight instructors. Alibis to the effect that written-exam questions were misleading are short lived because electric scoring machines now grade CAA examinations. Statistics developed from the computations of these scoring machines now enable the General Inspection Division to weed out weaknesses in examinations.

### New Books Used

As a result of recently completed, on-the-spot, research into the phraseologies employed by flight instructors, two new instructional bulletins have been developed. They are "Patter for Elementary Flight Maneuvers", and "Fundamentals of Elementary Flight Maneuvers". The first is being issued to instructors and the second to students in the CAA's War Training Service program.

The "patter" book tells the instructor what language to use in explaining maneuvers to the student. The "fundamentals" book also explains maneuvers but is intended as a "homework" text for students.

Written examinations have been keyed to scoring machines in order to speed and standardize the grading of papers and to make possible the evaluation of exam questions. In the past, inspectors graded papers and sent the

grades in to CAA headquarters. There was no way of knowing the causes behind flunks. Now, through the use of scoring and tabulating machines, difficulties can readily be traced to their sources by statistical comparison.

### Training Speeded

Because of these advanced approaches to the giving of instruction, the Administration's training program will turn out larger numbers of pilots than ever before. It will feed graduates of cadet,

(See Pilot Training page 33)

### CAA Exam Applications

Secondary schools interested in having students of pre-flight aeronautics take the private pilot ground school written examination in May, June, or September, 1943, may obtain application forms from the nearest CAA district, regional, or central office (attention: General Inspection); from the secondary education division of most state departments of education; or from the National Catholic Welfare Conference, Washington, D. C.

Identified as Form ACA 1159, each blank provides space for the names of as many as 50 students. A separate form or forms should be requested for each school desiring to give the examination. Properly prepared applications in duplicate must be received by the Civil Aeronautics Administration, General Inspection Division, Examination Unit, Reference A-322, Washington, D. C., at least 30 days prior to the date on which the examination is to be given.

## Study References Aid Teachers In Pre-flight

Keen interest on the part of school administrators and teachers of pre-flight aeronautics has developed as a result of the Civil Aeronautics Administration's recent announcement of arrangements making available to qualified students of pre-flight aeronautics courses the CAA's private pilot written examination. Students who pass the examination are awarded a CAA Certificate of Aeronautical Knowledge.

In practically every case, responses to the announcement have included requests for an outline of the material covered by the examination and suggested study references in specific texts. In this respect, the examinations on aeronautical knowledge are not keyed to any specific textbook. Most of the leading high school texts on pre-flight aeronautics, supplemented with additional references to up-to-date Civil Air Regulations, provide adequate study material for the subject matter covered in the examination.

### Teachers' Study Outline

Based on the responses to the announcement, the Pre-Flight Aeronautics Program has developed, as an aid to teachers, an outline which includes specific references to the five most widely used textbooks and special government bulletins in this field. For example, the items appearing under the list of study references suggested for the meteorology phase of the examination are given below:

(1) Aviation Education Research Group, "Science of Pre-Flight Aeronautics for High Schools," pp. 436-583; 588-623.

(See References page 33)

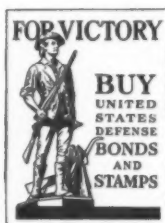


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## 20 Schools Give Air Training In Spanish

Twenty aviation schools in the United States have Spanish or Portuguese speaking instructors who can give students from Central and South America aviation training in their own language, a recent CAA survey has found.

The survey was prompted by the interest in aviation training that has been created in Central and South America by the Inter-American goodwill program. Around 500 students from the other Americas were awarded scholarships several months ago and have been given aviation training in the States as part of the "Good Neighbor" policy.

A large number of inquiries about our schools and training facilities have been received since then from Spanish and Portuguese speaking students who are interested in paying their own way through such courses.

### Schools Well Equipped

In compiling the list of schools which can accommodate these students, the CAA found that two schools, East Texas Flying Service, Marshall, Tex., and Piedmont Aviation, Inc., Municipal Airport, Winston-Salem, N. C., are now giving ground and flight training to both Spanish and Portuguese-speaking students. The Texas school reported eight instructors who can give flight training in both languages.

Two schools are already giving aviation courses to Spanish-speaking students. They are the Johnson Flying Service, Municipal Airport, Greenwood, S. C., and the Kalispell Flying Service, Municipal Airport, Kalispell, Mont. The latter indicated that it can also give training in Portuguese.

The three schools which can give training in both the Spanish and Portuguese tongues are Charles Branstetter Jr., Lovelock Airport, Lovelock, Nev. (ground and flight); Shupe Flying Service, 408 Medary Avenue, Brookings, S. D. (ground courses), and Purdue Aero Corporation, Lafayette, Ind.

### Give Training in Spanish

The thirteen aviation schools able to give aviation training to Spanish-speaking students are listed below:

Alice Flying Service, Alice Municipal Airport, Alice, Tex. (ground and flight).  
Mauldin Aircraft, Mauldin Airport, Brownsville, Tex. (ground and flight).  
Wichita Falls Air Trans. Co., Municipal Airport, Wichita, Tex. (ground and flight).

Pierce Flying Service, Nogales International Airport, Nogales, Ariz. (flight training).

Marshall Flying Service, Marshall, Mo. (ground and flight).

Georgia Air Service, Inc., Milledge-

## New CAR's for Parachute Riggers; Repair Stations

Two new CAR's concerning parachute riggers and parachute repair stations are being carried in full in this issue of the Journal.

Parachute riggers under the old set-up were issued mechanic certificates with a parachute rigger rating. The major changes of the new CAR, Part 25 allows for the certification of parachute technicians in three ascending grades, and provides for the special ratings of parachute jumper and parachute instructor. It also provides for the keeping of log books, not required before.

The holder of a currently effective mechanic certificate with a parachute rigger rating is allowed six months from the effective date, January 21, 1943, of this part in which to get the appropriate certificate.

Part 54, "Parachute Loft Certificates and Ratings," provides for the certification of a parachute repair station with six ratings extending from minor repairs to drop testing.

## Administrator Issues Two New Regulations

"Aircraft Registration Certificates," Part 501, of the Administrator's regulations has been revised. The major change made requires that the title of, or interest in, an aircraft be recorded before it can be registered.

"Recordation of Aircraft Ownership," Part 503, is a new regulation issued by the CAA Administrator which concerns the requirements for recording the title of, or interest in, a registered aircraft. These two regulations will be effective March 31, 1943.

"Reproduction and Dissemination of Current Examination Materials," Part 532, is another new Administrator's regulation, effective since January 15, 1943. It rules that examination questions or key sheets to answers to questions now in use by the Administration cannot be reproduced without consent of the Administration.

Copies of these three regulations may be obtained from the CAA Correspondence Section.

ville Airport, Milledgeville, Ga. (ground and flight).

Madison Flying Service, Madison Airport, Madison, Ind. (ground courses).

W. T. D. Flying Service, Municipal Airport, McCamey, Tex. (ground courses).

Aviation Enterprises, Inc., Municipal Airport, Houston, Tex. (ground courses).

Dorrance Flying Service, CAA Intermediate Field, Kirksville, Mo.

Gardenville Aero Corp., Gardenville Airport, Gardenville, N. Y.

Kenneth Starnes Flying Service, Municipal Airport, Little Rock, Ark.

University of North Carolina, Chapel Hill, N. C.



## Pilots Take Too Many Chances Typical Air Accidents Show

### Pilot Injured Dusting Cotton

Joseph Otto Marrett was seriously injured in an accident which occurred about 6 miles northwest of Cleveland, Miss., August 21, 1942. He held a commercial pilot certificate with a single-engine 0-80 h. p. land rating, and had accumulated approximately 400 flying hours. About 125 hours had been flown in the type of airplane involved. The aircraft, a Commandaire 5C-3, was damaged to a major extent.

Marrett began dusting operations at daylight. On the first swath with his second load of dusting material of the morning, he approached the field from the east, flying crosswind. At the west end of the field, he pulled up for a turn. During this turn the aircraft was stalled and settled into a 40-foot gum tree. It then struck the ground on its nose at an angle of about 70° and came to rest on the bottom of the fuselage, heading east.

Inspection of the wreckage revealed no mechanical failure of the aircraft or malfunctioning of the engine prior to impact. The condition of the propeller indicated that little or no power was being developed at the time the aircraft struck the ground.

The cotton field being dusted was bordered by trees along the east, north, and west sides. It is believed that had the pilot carried out his dusting operations flying upwind and downwind (north and south), he might have avoided the dangerous approach into the area he was dusting. His employer stated that he had cautioned Marrett regarding his turns and low approaches to the field. The fact that the pilot had been involved in another accident while crop dusting eleven days prior to this, when he flew through some wires, would seem to support the belief that he had adopted some careless and dangerous habits in his method of dusting.

**Probable cause.**—Failure to maintain flying speed while executing a turn at low altitude.

**Contributing factor.**—Low altitude flying necessitated by dusting operations.

### Water in Gasoline Cause of Crash

George Stanley Colpitts received fatal injuries and his passenger, Jack Gray, was seriously injured in an accident

which occurred about one-half mile northwest of Seneca Airport, Seneca, Oreg., May 10, 1942. Colpitts held a student pilot certificate and had logged approximately 58 hours of solo flight time. Gray was uncertificated as an airman. The aircraft, a Taylorcraft BC-65, was demolished.

Colpitts had received clearance from the Roe Davis Airport, Burns, Oreg., to fly to Seneca, Oreg., and return. Upon arriving at Seneca, he refueled his plane from a supply of gasoline which he had stored in the open at the airport. Then he took off on a short flight with Gray. The passenger's 14-year old son and another boy watched the take-off and stated that the plane circled the field twice, then headed away in a northerly direction. They did not see or hear the plane again during the flight. After an undetermined period of time had elapsed the boys observed the tail of an airplane projecting upward from the ground about 1½ miles beyond the approach end of the runway and, without investigating, rushed to town for assistance. A rancher stated that he had observed a plane flying over Seneca and that he had heard the engine cut out but did not observe the flight thereafter. He stated further that about a half-hour later he was notified of the crash and immediately drove to the scene where he found the two men pinned in the wreckage. The plane had struck the ground on its nose and remained tail up in an almost vertical position. There were no known eyewitnesses to the accident.

Examination of the wreckage disclosed no evidence of mechanical failure of the aircraft. The condition of the propeller indicated that it was not rotating at the time of impact. Dual controls were connected and found to be operative. The passenger stated he recalled that prior to the flight the pilot had refueled his plane from a barrel. He could remember nothing concerning the accident itself. Samples of gasoline from the storage barrel, the plane's fuel tank, and the carburetor bowl contained about 50 percent of rusty water.

**Probable cause.**—Power failure due to water in the fuel system.

### Plane Crashes In City Street

Ross Leach and his passenger, Walter William Mohan, were fatally injured in an accident which occurred at

(See Accidents page 28)

## January Bad Month For 11 Fliers

The Safety Bureau received reports of eleven fatal accidents occurring in non-air-carrier flying for the month of January 1943. These accidents occurred as follows:

### Structural Failure

During flight involving acrobatic maneuvers, the front spar of the right stabilizer failed in a weld adjacent to the fuselage. Thus released, the stabilizer assumed an extreme angle of incidence that could not be compensated by the elevator. The plane fell to the ground in a nearly perpendicular dive. The plane was 11 years old and had recently been completely overhauled and recertificated.

### Collision (other objects)

The pilot, engaged in crop dusting, failed to clear low-hanging telephone wires over which he had been operating. Wires failed to break and plane was demolished on impact with ground.

### Spin—Stall

While flying over open water at about 800 feet, for undetermined reason, the plane entered left spin and did not recover. Plane was demolished by impact, but remained afloat about 18 minutes.

In the remaining eight cases, the investigator's reports have not yet been received.

A table comparing the fatal accidents in December, 1941 and 1942, and January 1942 and 1943 follows:

	Non-air carrier	Air carrier		Total
		Domestic	Foreign	
January, 1943.....	11	—	—	11
January, 1942.....	7	1	—	8
December, 1942.....	15	1	—	16
December, 1941.....	5	—	—	5

† Two reports were received after the release of information on December fatal accidents.

### Corrections

Two fatal accidents in non-air-carrier flying occurring during the month of November were reported to this office subsequent to the release of November's fatal accident report; an upward revision of two should be made for November.

During the month of October an accident occurred in which the student was seriously injured. Information was received in this office on February 4, 1943, that the student had succumbed within the 90-day period from these injuries. Therefore, an upward revision of one should be made for October's fatal non-air-carrier accident report.

### Great Fire Power

If all the guns on the Republic P-47 Thunderbolt Army fighter plane were fired for 1 minute, they would release sufficient kinetic energy to lift a 35,000-ton battleship out of the water.



## Accidents

(Continued from page 27)

Covington, Ky., on August 9, 1942. Leach held a private pilot certificate, with a Class 1 land rating, and had accumulated approximately 270 hours of solo flight time. Mohan held a student pilot certificate and had accumulated about 100 hours of flight time. The aircraft, a Culver Cadet, was destroyed by impact and fire.

Leach received proper clearance and, accompanied by his passenger, took off from the Lunken Airport, Cincinnati, Ohio. They immediately flew across the Ohio River to Covington and were observed circling over their homes for a period of about 15 minutes. The aircraft was then headed north and the pilot began executing turns at an altitude of approximately 700 feet. During a steep right turn, the plane was seen to fall off to the right and dive toward the ground. It crashed nose first in a city street, burst into flames and was destroyed by fire. A small portion of the broken propeller was hurled through the closed door of a nearby house, inflicting slight injuries to a woman occupant.

The wreckage was in such condition that subsequent inspection disclosed no information of value. Apparently the landing gear was retracted and power was being developed at the time of impact. Investigation revealed that after Leach had received about 15 hours of instruction in the Civilian Pilot Training instructors refresher course during July 1942, he was dropped because of lack of coordination, poor judgment, and forgetfulness.

**Probable cause.**—Failure to maintain control of the aircraft while performing maneuvers at low altitude.

## Low Ceiling Drives Plane Into Mountain

An accident occurred about 5 miles west of Boons Mill, Va., June 6, 1942, resulting in serious injury to the pilot, Joseph Ross Bowen. His passengers, Bruce Ivy, Jr., and Stanley Koonig, sustained minor injuries. Bowen held a commercial pilot certificate with Class 1 and 2S land, Class 1 water, and flight instructor ratings. He had accumulated about 2,100 hours of solo flight time. The aircraft, a Stinson SM-6000-B, was demolished.

Bowen arrived at the airport at Lynchburg, Va., at approximately 7:45 a. m. and checked the weather conditions with the Weather Bureau office. He stated that the ceiling was reported as 4,000 feet, broken, with no change in sight. He then had the plane checked and serviced. At about 9:00 a. m., after his passengers had arrived at the airport, Bowen checked the weather again and was given the same report he had received earlier in the morning.

The pilot then took off from Knoxville and as he was beginning to cross the main part of the mountain range, about 60 miles out of Lynchburg, a lower ceiling was encountered. After descending

to approximately 2,000 feet, he proceeded on his course for about 20 minutes, and again entered the base of the overcast. At this time Bowen decided to return to either Roanoke or Lynchburg, Va. He stated that after reversing his course, he discovered that the ceiling had lowered sufficiently to force him to fly through valleys in order to remain below the base of the overcast. After proceeding through several valleys and being forced to turn around because of lowered visibility, he flew into one valley which was too narrow to permit a turn. He headed toward a low point in the ridge where the ceiling appeared to be high enough to enable him to get through. The plane was unable to clear the ridge notwithstanding the application of full power, and finally struck the side of the mountain at a point about 200 feet below the crest. Fire started shortly after the pilot and his two passengers had left the plane.

The aircraft was not equipped for instrument flying.

**Probable cause.**—Action of the pilot in continuing flight into unfavorable weather over mountainous terrain where no suitable landing area was available.

## Engine Stalls On Take-Off

Jerry James Lencioni was seriously injured in an accident which occurred near the Morey Airport, Middleton, Wis., August 5, 1942. Lencioni held a student pilot certificate and was enrolled in the Civilian Pilot Training Navy V-5 Program. He had accumulated about 9 hours of solo flight time. The aircraft, an Aeronca 50-LA, was extensively damaged.

Lencioni had been practicing solo take-offs and landings at the Morey Airport. On his last take-off, when he had reached an altitude of approximately 125 feet, and was about 250 feet beyond the airport boundary, the engine began to miss and then pick up, intermittently. This occurred several times. The pilot made a 90° turn to the left, leveled off and made another 90° left turn, downwind, toward the airport. At the completion of this last turn the plane was stalled, fell off to the right and struck the ground, right wing first, in a cornfield adjoining the airport.

Lencioni's instructor, who witnessed the accident, stated that when the engine first started to cut out the student was in a position to use an open field straight ahead which was suitable for landing. Instead he elected to turn back to the airport. The second 90° turn was made with the nose high and the pilot stalled the aircraft while apparently trying to stretch his glide to reach the airport.

Inspection of the magneto revealed an open circuit in the primary winding of the coil.

**Probable cause.**—Stall during attempt to turn back to airport following engine failure after take-off.

**Contributing factors.**—(1) Malfunctioning of the engine. (2) Inexperience and poor judgment of pilot.

## New Aeronautical Publications

Among recent government publications dealing with the subject of aeronautics are the following:

**AERONAUTICAL TERMS:** War Department. Dictionary of aeronautical terms, English, French, Japanese, German; 1942. This dictionary of aeronautical terms originally published by the Japanese has been reproduced under the supervision of the Director of Intelligence Service, A. A. F., for use as a ready reference manual in the translation of aeronautical terms. 484 pages; price 35 cents; classification No. W 108.2 Ae 8.

**CIVIL AIR REGULATIONS:** Civil Aeronautics Board.

Part 01—Airworthiness certificates, as amended to Oct. 15, 1942. 1942; 4 pages; price 5 cents; classification No. C 31.209: 01.

Part 22—Lighter-than-air pilot certificates, as amended to Oct. 15, 1942. 1942; 8 pages; price 5 cents; classification No. C 31.209: 22.

Part 24—Mechanic certificates, as amended to Oct. 1, 1942. 1942; 4 pages; price 5 cents; classification No. C 31.209: 24.

Part 40—Air carrier operating certification, as amended to Nov. 1, 1942. 1942; 11 pages; price 10 cents; classification No. C 31.209: 40.

Part 52—Repair station rating, as amended to Oct. 1, 1942. 1942; 2 pages; price 5 cents; classification No. C 31.209: 52.

Part 98—Definitions, as amended to Oct. 15, 1942. 1942; 2 pages; price 5 cents; classification No. C 31.209: 98.

**UNITED STATES METEOROLOGICAL YEARBOOKS:** Weather Bureau. 1938; 154 pages 11; cloth, price 75 cents. 1939; 136 pages, maps; cloth, price, \$1.00 classification No. A 29.45. (Prior to 1935 these reports constituted the statistical sections of the Annual Report of Chief of Weather Bureau).

**ARMY REGULATIONS 95-200, Army Air Forces:** War Department. Army airways communications system. Nov. 18, 1942; 3 pages; price 5 cents; classification No. W 1.6/1: 95-200. (Supersedes AR 90-200, June 18, 1942).

**ARMY REGULATIONS 610-50, Flight Officers:** War Department. General provisions. Nov. 5, 1942; 3 pages; price 5 cents; classification No. W 1.6/1: 610-50.

**ARMY REGULATION 615-150, Enlisted men:** War Department. Aviation student training. Nov. 5, 1942; 4 pages; price 5 cents; classification No. W 1.6/2: 615-150. (Supersedes AR 615-150, Aug. 1, 1941).

**ARMY REGULATIONS 615-160, Enlisted men:** War Department. Aviation cadets. Nov. 5, 1942; 10 pages; price 5 cents; classification No. W 1.6/1: 615-160. (Supersedes AR 615-160, July 20, 1938).

When ordering these publications, send remittance by postal money order, express order, coupons, or check to the Superintendent of Documents, Government Printing Office, Washington, D. C. Always give title, issuing office, or classification number when listed.

## Lighting Terms Defined

A revised list of definitions of aeronautical lighting terms is available this month. The new list supersedes CAA Planning and Development Report No. 3, "Aeronautical Light Nomenclature." It defines terms commonly applied to aeronautical lighting so that there will be agreement as to the meanings, and uniformity in using them. Copies of the new Aeronautical Light Nomenclature may be obtained from the CAA Correspondence Section by those with a bona fide interest in the subject matter.

CIVIL AERONAUTICS JOURNAL

## New Windshield Protects Against Birds and Ice

An aircraft windshield which will protect pilots against collisions with birds in flight and against the accumulation of ice promises to become a reality as the result of a development program carried out by the Civil Aeronautics Administration and a group of commercial companies during the past year.

The research was directed by John Easton, Chief of the CAA's Technical Development Division and by A. L. Morse, Chief of the Aircraft Development Section of that division. Research by technicians of the Pittsburgh Plate Glass Company and Libbey-Owens-Ford Glass Company contributed heavily to the type of plastic used. Technical experts from E. I. du Pont de Nemours and the Monsanto and other chemical companies provided plastics.

### Bad as Bullets

Numerous injuries have been sustained as a result of accidents caused by windshield ice, and by ducks, wild geese, eagles, seagulls, and other birds, crashing through the windshield into the cockpit enclosure. Birds (weighing as much as 15 pounds) have been encountered at varying heights up to eight thousand feet. They are a constant source of worry to pilots, particularly when flying at night. In several instances the birds also have penetrated the bulkhead, traveled the length of the cabin, and penetrated the rear wall.

De-icing experiments have been carried out by the personnel of the National Advisory Committee for Aeronautics, by aircraft manufacturers and by the domestic air lines. The bird testing program is being undertaken by the CAA at the East Pittsburgh plant of the Westinghouse Electric and Manufacturing company.

The glass and plastic manufacturers have produced a new type of plastic and glass windshield assembly which offers an extremely high degree of protection. Panels having reasonable weight and optical characteristics have been developed which will stop 15-pound bird carcasses traveling at speeds in excess of 200 miles an hour.

They are projected against test windshields by a super air gun developed by the Westinghouse company. Looking like an anti-aircraft gun, the fowl shooter has an eight-inch bore and a twenty-foot barrel. Freshly killed bird carcasses are weighed, placed in flour sacks, stuffed into the barrel and shot at speeds simulating actual flight conditions. Velocities in excess of 400 miles an hour can be attained.

### How It's Made

One promising type of panel is made by laminating a sheet of especially prepared polyvinyl acetal resin one-half

## New Type Approvals

(Approval numbers and dates of assignment in parentheses)

### Propellers

Curtiss, C5325D 3-blade propeller with 89324-12 blades, steel hub and aluminum alloy blades, 12 ft. 0 in. to 10 ft. 6 in. diameter, electrically controllable (feathering) pitch, 1500 hp, 1350 rpm. (Type Certificate No. 793, 2-3-43.)

## New Models Added to Old Type Approvals

(Approval numbers and dates of approval of new models in parentheses)

### Aircraft

Aeronca, SO-058B, 2-place closed sea monoplane, Continental A-65-8. (Type Certificate No. 751, 11-23-42.)

### Appliances

Troyer, skis model W-53. Approved static load per ski 650 lbs. (Type Certificate No. 147, 2-8-43.)

Switlik, parachute models CC4-24-P and CC4-24-S, back pack, standard canopy type, 24 ft. canopy diameter; pongee or nylon material (model CC4-24-P), white silk or nylon (model CC4-24-S). (Type Certificate No. 151, 2-19-43.)

Switlik, parachute models CC4-26-P and CC4-26-S, back pack, standard canopy type, 26 ft. canopy diameter; pongee or nylon material (model CC4-24-P), white silk or nylon (model CC4-26-S). (Type Certificate No. 151, 2-19-43.)

## WTS Stays With CAA

Contrary to rumor, the CAA War Training Service, formerly the Civilian Pilot Training program, will not be taken over by the Military. Administrator Stanton has announced that the CAA Service is and will continue to be the agency through which flight instruction contractors will deal in conducting pilot training programs for the Army and Navy. Training will continue at the centers now under the supervision of the CAA.

inch thick between two panes of semi-tempered glass, each one-eighth inch thick. The amount of plasticiser used is adjusted to provide a maximum of toughness and "give" at the temperatures maintained during flight. The half-inch plastic sheet extends about an inch beyond the glass and is belted to the reinforced metal framework of the airplane. Sheet metal strips are imbedded in these extended edges to insure against the windshield's tearing loose from the supporting structure. The hazard of flying glass is eliminated by substitution of a scratch-resisting plastic for the rear glass plate.

The windshield assembly includes a front pane of one-fourth inch tempered glass, separated from the impact-resistant panel by a narrow air space through which hot air can be circulated. This prevents the accretion of frost and ice and maintains the high temperatures necessary to provide a maximum of impact resistance in the bird-resistant panels.

## Tennessee School Graduates Ten Girl Instructors

The graduation last month of ten girls from the Women's Instructor Training school conducted at Nashville, Tenn., by the Tennessee Bureau of Aeronautics, may pave the way for the training of many more new women instructors, sponsors of the school believe.

The results of an experimental 15 weeks' training course at Nashville for women have been entirely favorable. Each of the ten girls has logged approximately 120 hours before entering the school. During the course of controlled training each has built up her time to a minimum of 165 hours, and qualified for a commercial pilot's certificate. Each has also qualified and been granted a rating as flight instructor. Each one now has five ratings in ground school subjects—meteorology, aerial navigation, aircraft structures, aircraft engines, and Civil Air Regulations.

There are very few women instructors—or men either—in this country with that many ratings on their "tickets."

There's no doubt about the demand for these graduates. Flight contractors all over the South have bid for their services. Whether they select jobs out of the number that have been offered or take jobs within the state in the new CAA training program as the State Board of Aeronautics has urged, it is certain that these girls will be directly in the war effort, actively engaged in the "mass production of pilots."

Based on this successful experiment, the Tennessee Bureau of Aeronautics is urging the United States Senate to appropriate funds for a nationwide women's instructor program in which 500 women pilots would be trained within the next six months, and 400 others enrolled in training.

CAA Administrator Stanton was present at the graduation ceremony when the girls were given their wings and their CAA pilot's certificates, with the five important ratings. Eight of them received their first flying training from the CAA before women were excluded from the program.

## Manual 60 Available

"Air Traffic Rules," Manual 60, a simplified version of the old Manual 60, which consisted of three parts, has been placed on sale at the Superintendent of Documents for 20 cents a copy.

Since emergency, defense, and miscellaneous air traffic rules are available at any airport, this manual deals only with the sections of Part 60 which pertain directly to air traffic control. It outlines, in easily understandable form, the procedures and phraseologies for both airport and airway traffic control.



## Mail Pay Set at .3 Mill For United and TWA

The Civil Aeronautics Board has announced a new rate of payment for mail carried by United Air Lines Transport Corporation which will result in a reduction of approximately \$1,700,000 per year, effective January 1, 1943, and stated that early consideration will be given to a reduction in passenger rates. Under the new rate United, which carries more mail than any other domestic air line, will receive .3 mill per pound-mile for mail carried on its entire system. Harilee Branch, Member, dissented from the mail rate fixed by the majority, holding it to be too high.

The Board estimated that United may be expected to operate before mail pay at a profit of \$4,167,722 with its present passenger and express rates per year, excluding Federal taxes. The Board said that United's annual mail revenue for the future under the .3 mill per pound-mile rate is estimated at \$4,177,500 and that the carrier's profits from its entire passenger, property and mail operation are estimated at \$8,345,222 before Federal income taxes. The Board pointed out, however, that a substantial part of United's estimated net income will be subject to the 90 percent excess profits tax, and the remainder to a tax of 40 percent.

### Same Rate for TWA

The Board has also fixed the .3 mill per pound-mile mail rate payment for Transcontinental & Western Air, Inc., resulting in a reduction of more than \$1,200,000 a year, beginning January 1, 1943. TWA's mail payment in the past has been on a base rate of cents per miles flown, differing over each of the carrier's routes, but the new rate will apply to the entire TWA system.

The Board estimated that TWA may be expected to operate before mail pay the next year at a profit of \$1,675,428 with its present passenger and express rates per year, excluding Federal taxes. The Board said that TWA's annual mail revenue for the future under the .3 mill per pound-mile rate is estimated at \$2,070,000 per year and that the carrier's profits from its entire passenger, property, and mail operation are estimated at \$3,745,428 before Federal income taxes. The Board pointed out, however, that a substantial part of TWA's estimated net income that is defined as "excess profits net income" will be subject to the 90 percent excess profit tax, and the remainder to a tax of 40 percent.

These decisions give United and TWA

the same mail rate payment as the three other major airlines, Eastern, American, and Pennsylvania-Central.

### Branch Dissents

In his dissenting opinion in the United case, Harilee Branch declared that "a service mail rate of .3 mill per pound mile for United Air Lines results in excessive mail compensation for this carrier . . . (which) has the effect of continuing a governmental subsidy to a commercially self-sufficient carrier after it no longer has any 'need' for such excessive payment." He made a similar statement in the TWA case.

## Josh Lee Named Board Member

Josh Lee, former Senator from Oklahoma, has been sworn in as a member of the Civil Aeronautics Board. Mr. Lee will serve the final year of the six-year term vacated by Dr. George P. Baker, who resigned to become Chief of the Requirements Branch, Quartermaster General's Office, War Department.

Elected to the Congress in 1935, Mr. Lee served two years as a Representative and was then elected to the Senate, where he served until last December. While Senator, Mr. Lee was a member of several committees, including the Commerce Committee, which helped establish the Civil Aeronautics Act of 1938. During both House and Senate service, Mr. Lee had been active in support of aviation development. He was also a member of the Foreign Affairs and Military Affairs Committees, and as a member of the latter group was chairman of a subcommittee which instituted and conducted an extensive study on the use of air cargo.

### Non-Sunburn Plastic

Airplane windows made from lumarith, a transparent cellulose acetate-base plastic which screens out the burning rays of the sun are coming into use in an effort to protect crews of Army and Navy warplanes from the deleterious effects of sunburn. On long bombing flights behind certain types of plastics, crew members have returned seriously burned.

## Board Experts Sent to Lisbon On Clipper Crash

The crash of the Pan American Airways trans-Atlantic clipper in Lisbon, Portugal, February 22, with 24 persons dead or missing, is being investigated on the spot by representatives of the Civil Aeronautics Board.

Allen P. Bourdon, Chief of the Accident Investigation Division, and Howard B. Bailey, Technical Consultant to the Board, were sent to Lisbon to take charge of the investigation shortly after reports were received of the accident—the first to occur to an American commercial aircraft on the other side of the Atlantic.

### Portuguese Officials Help

The American Legation at Lisbon is working closely with Portuguese officials in the accident investigation, since the manner of inquiry into accidents occurring in foreign territory must be discussed with the government in that territory.

The clipper, a Boeing 314, with 27 passengers and 12 crew members aboard, was en route to Foyens, Elre, and was making its usual call at Lisbon after an intermediate stop at Horta in the Azores.

Official information from the American Legation at Lisbon confirmed the report that the plane cracked up as it approached its landing base in the Tagus river and sank almost immediately.

### U. S. O. Entertainers Aboard

Seven of the passengers on board: Roy and Jean Rognan, a professional dance team known as Lorraine and Rognan; Olga Whitkowska, an accordionist, known professionally as Gypsy Mark-off; Grace Drysdale, puppeteer; Ellen Jane Ross, the singer known as Jane Froman; Elsa Harris Silver, a singer known as Yvette; and Tamara Swann, the popular singer known as Tamara, were members of a group of entertainers going to entertain American and other United Nations troops on foreign duty. They were travelling under the auspices of U. S. O. Camp Shows, Inc. Roy Rognan and Tamara were reported missing.

Surviving crew members are Capt. R. O. D. Sullivan Commander of the clipper; Second Officer M. W. Osterhout; Fourth Officer John C. Burn; Assistant Engineer William H. Manning; Radio Officer David M. Sanders; Assistant Radio Officer Robert J. Rowan, and Steward Philip A. Casperini.

All the mail carried by the Clipper was salvaged. It is being processed and will be delivered. Approximately 70,000 letters were recovered.



# Domestic Air Carrier Operation Statistics for the Month of December 1942

Operator	Routes operated	Revenue miles flown	Revenue passengers carried	Revenue passenger miles flown	Express carried (pounds)	Express pound-miles flown	Passenger seat-miles flown	Revenue passenger load factor (percent)
All American Aviation, Inc.	Pittsburgh - Huntington, Philadelphia, Williamsport, Jamestown, etc.	66,645	0	0	4,975	588,665	0	
American Airlines, Inc.	Dallas-Los Angeles	641,939	12,052	9,532,696	161,779	159,232,503	11,767,109	81.01
	New York-Chicago	323,394	11,439	4,253,869	488,294	201,019,118	6,044,820	70.37
	Boston-New York	92,348	8,687	1,482,954	130,872	20,377,177	1,895,288	78.24
	Boston-Cleveland	15,749	1,054	160,720	21,226	3,529,103	330,687	48.60
	Cleveland-Nashville	50,318	3,506	757,929	64,506	17,422,199	1,050,229	72.17
	New York-Fort Worth	491,229	13,372	7,703,640	212,299	126,594,617	9,385,228	82.06
	Washington-Chicago	129,245	4,019	1,763,049	71,331	31,138,029	1,878,217	74.14
	Chicago-Fort Worth	93,606	3,098	1,392,560	67,242	47,253,966	52,836	30.64
	Buffalo-Toronto	2,516	213	16,188	7,581	3,058,564	2,198,845	40.49
	Fort Worth or El Paso-Mexico City	123,230	963	890,304				
	Total	1,963,574	58,403	27,953,909	1,227,598	609,813,548	37,060,174	75.43
Braniff Airways, Inc.	Chicago-Dallas	133,175	3,506	1,876,758	42,020	24,713,869	2,286,954	82.06
	Amarillo-Brownsville	111,175	6,234	1,559,495	29,991	7,866,436	1,994,765	78.18
	Houston-San Antonio and Corpus Christi	20,466	1,064	201,208	2,450	461,006	343,544	58.57
	Total	264,816	10,804	3,637,461	74,461	33,041,311	4,625,263	78.64
Chicago & Southern Air Lines, Inc.	Chicago-New Orleans	121,585	4,244	1,727,763	40,046	17,330,162	2,504,091	69.00
	Memphis-Houston	28,757	974	343,861	4,686	1,977,529	547,158	62.84
	Total	150,342	5,218	2,071,624	44,732	19,307,691	3,051,249	67.89
Continental Air Lines, Inc.	Denver-El Paso	90,364	2,622	798,046	7,396	2,319,904	984,167	81.09
	Pueblo-Tulsa	33,278	845	212,835	1,948	718,354	340,004	62.60
	Total	123,642	3,467	1,010,881	9,314	3,038,258	1,324,171	76.34
Delta Air Corporation	Charleston-Fort Worth	111,055	5,128	1,990,117	21,296	8,608,052	2,368,863	84.01
	Atlanta-Cincinnati	32,889	1,645	513,519	11,584	3,486,570	690,984	74.32
	Total	143,944	6,773	2,503,636	32,880	12,094,622	3,059,847	81.82
Eastern Air Lines, Inc.	New York-Brownsville & San Antonio	329,293	9,016	5,036,708	114,388	62,369,222	6,641,643	75.84
	New York-Miami	465,443	10,490	6,016,736	160,665	120,993,662	7,858,491	76.56
	Chicago-Jacksonville	135,806	4,859	2,121,591	68,268	32,323,375	2,670,915	79.43
	Atlanta-Tampa	16,257	736	237,718	8,305	3,306,795	341,397	69.63
	Total	946,799	25,091	13,412,753	337,626	218,993,054	17,512,446	76.59
Inland Air Lines, Inc.	Denver-Great Falls	39,821	753	249,939	1,566	216,110	492,971	50.70
	Cheyenne-Huron	18,218	0	0	86	36,481	0	
	Total	58,039	753	249,939	1,652	252,591	492,971	50.70
Mid-Continent Airlines, Inc.	Minneapolis-Tulsa	55,775	1,398	399,761	8,510	1,749,989	698,072	57.27
	Minneapolis-St. Louis	22,514	0	0	696	149,814	0	
	Total	78,289	1,398	399,761	9,206	1,899,803	698,072	57.27
National Airlines, Inc.	Jacksonville-Miami	48,952	2,305	527,389	5,567	1,421,064	685,328	76.95
	Jacksonville-New Orleans	70,773	2,235	830,062	9,867	3,926,618	990,822	83.78
	Total	119,725	4,540	1,357,451	15,434	5,347,682	1,676,150	80.99
Northeast Airlines, Inc.	Boston-Presque Isle & Moncton	39,025	1,387	329,336	5,891	1,392,880	827,442	39.80
	Boston-Montreal	4,029	0	0	84	15,744	0	
	Total	43,054	1,387	329,336	5,975	1,408,624	827,442	39.80
Northwest Airlines, Inc.	Chicago-Seattle	280,128	5,412	2,816,792	106,717	71,502,343	4,163,769	67.65
	Minneapolis-Duluth	3,718	0	0	101	14,443	0	
	Total	283,846	5,412	2,816,792	106,818	71,516,786	4,163,769	67.65
Pennsylvania-Central Airlines Corp.	Norfolk-Detroit	133,339	10,174	2,136,660	160,095	29,623,410	2,788,859	76.61
	Detroit-Milwaukee	10,107	690	105,073	3,601	548,389	212,247	49.51
	Pittsburgh-Buffalo	8,502	405	87,506	4,276	916,222	178,542	49.01
	Pittsburgh-Birmingham	26,700	891	302,519	2,136	586,530	561,561	53.87
	Total	178,708	12,160	2,631,758	170,108	31,674,551	3,741,209	70.35
Transeontinental & Western Air, Inc.	New York-Los Angeles	824,133	15,260	9,481,898	560,821	424,971,545	12,420,316	76.34
	Dayton-Chicago	13,365	746	171,067	31,404	6,417,367	257,955	66.32
	Boulder City-San Francisco	29,667	543	215,845	1,518	752,850	534,245	40.40
	Kansas City-Pittsburgh	222,855	4,664	2,473,073	204,797	102,957,158	3,018,667	81.93
	Detroit-St. Louis	40,710	2,374	547,776	43,394	11,037,314	731,581	74.88
	Total	1,130,730	23,587	12,889,679	841,934	546,136,334	16,962,764	75.99
United Air Lines Transport Corporation	New York-San Francisco	1,153,413	15,138	13,161,675	529,205	439,984,360	15,600,661	84.37
	Salt Lake City-Seattle	96,889	2,347	1,469,119	23,255	10,680,833	1,803,470	78.13
	Los Angeles-Seattle	362,592	14,516	5,949,235	147,869	63,204,628	6,558,165	90.71
	Seattle-Vancouver	2,304	120	16,573	1,134	145,152	43,592	38.02
	Total	1,615,198	32,121	20,536,600	701,463	514,014,973	24,005,888	85.55

(Continued on next page)

# Domestic Air Carrier Operation Statistics for the Month of December 1942—Continued

Operator	Routes operated	Revenue miles flown	Revenue passengers carried	Revenue passenger miles flown	Express carried (pounds)	Express pound-miles flown	Passenger seat-miles flown	Revenue passenger load factor (percent)
Western Air Lines, Inc.	San Diego-Salt Lake City	94,078	3,706	1,429,613	47,684	22,458,103	1,813,506	78.83
	Salt Lake City-Great Falls	26,359	596	214,684	1,891	507,344	323,936	66.27
	Great Falls-Lethbridge	3,744	95	9,982	96	12,117	52,416	10.04
	Total	124,181	4,397	1,654,279	49,671	22,977,564	2,189,858	75.54
	Grand total	7,291,532	195,511	93,455,859	3,633,847	2,092,106,057	121,391,273	76.99

Passengers carried (Total revenue and non-revenue) 202,623 Correction to January-August report: All American Aviation, Inc., express pound miles flown 7,064,946  
 Passenger miles flown (Total revenue and non-revenue) 96,308,472 Total 14,055,366,899

# Domestic Air Carrier Operation Statistics for the Year 1942 Compared With the Same Period 1941

Operator	Revenue miles flown, January-December		Revenue passengers carried, January-December		Revenue passenger miles flown, January-December		Express carried (pounds), January-December	
	1942	1941	1942	1941	1942	1941	1942	1941
All American Aviation, Inc.	847,591	795,570	0	0	0	0	105,882	29,559
American Airlines, Inc.	27,789,154	31,938,599	1,003,747	1,202,816	402,298,900	409,400,652	11,971,155	5,513,496
Braniff Airways, Inc.	4,293,644	5,589,920	151,310	152,001	50,520,916	45,989,555	1,012,240	502,285
Catalina Air Transport <sup>1</sup>	41,924	138,370	8,684	31,164	290,520	354,920	64,088	161,057
Chicago & Southern Air Lines, Inc.	2,194,270	2,325,817	74,570	62,125	28,438,154	23,414,438	656,278	225,882
Continental Air Lines, Inc.	1,652,840	1,599,090	38,247	20,293	10,323,112	5,955,508	111,951	37,945
Delta Air Corporation	2,376,123	2,835,536	107,351	79,154	33,356,547	21,683,260	304,455	157,192
Eastern Air Lines, Inc.	16,247,496	19,822,957	482,352	530,720	218,063,530	211,449,614	4,033,106	2,097,249
Inland Air Lines, Inc.	995,766	1,254,112	11,410	12,086	3,291,984	3,154,096	39,817	19,862
Mid-Continent Airlines, Inc.	1,522,424	2,215,676	27,544	35,634	7,511,311	9,134,646	115,187	84,519
National Airlines, Inc.	1,536,027	1,551,830	55,158	34,846	15,412,680	8,984,450	218,599	72,693
Northeast Airlines, Inc.	788,478	1,249,669	26,446	42,797	5,385,171	7,074,920	87,292	73,315
Northwest Airlines, Inc.	4,701,432	6,199,046	111,177	149,212	52,061,159	59,659,145	1,143,249	709,710
Pennsylvania-Central Airlines Corp.	4,104,626	6,458,438	265,730	342,872	54,977,785	65,535,830	2,407,277	1,517,054
Transcontinental & Western Air, Inc.	16,591,998	19,634,941	401,892	439,444	201,783,686	202,483,452	7,364,435	2,867,131
United Air Lines Transport Corporation	22,100,327	26,288,029	511,408	563,883	289,994,873	271,837,483	9,208,458	4,318,497
Western Air Lines, Inc.	2,318,740	3,125,079	74,108	69,845	24,563,818	22,892,262	1,258,188	822,245
Total	110,102,860	133,022,679	3,349,134	3,768,892	1,398,042,146	1,369,584,231	40,101,657	19,209,671
Index (1941=100)	82.77	100.00	88.86	100.00	102.08	100.00	208.76	100.00

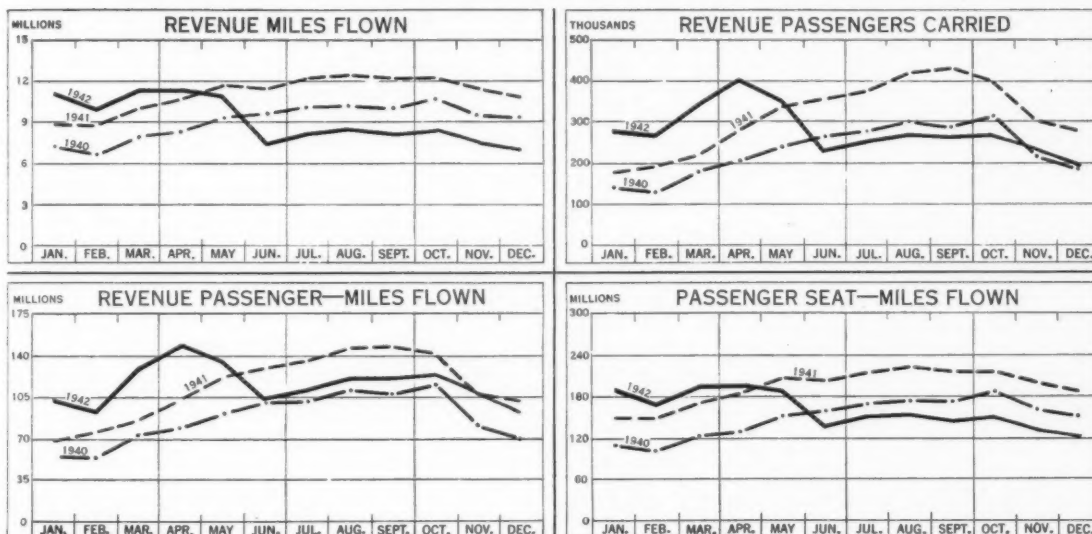
Operator	Express pound-miles flown, January-December		Passenger seat-miles flown January-December		Revenue passenger load factor (percent) January-December	
	1942	1941	1942	1941	1942	1941
All American Aviation, Inc.	11,499,454	3,380,021	0	0	0	0
American Airlines, Inc.	5,984,971,821	2,718,534,685	542,385,606	590,172,096	74.17	69.37
Braniff Airways, Inc.	388,626,710	222,690,905	74,723,374	96,880,551	67.34	47.47
Catalina Air Transport <sup>1</sup>	2,011,530	4,831,110	379,320	1,395,300	68.65	67.00
Chicago & Southern Air Lines, Inc.	264,099,718	107,981,528	45,719,921	46,818,882	62.20	50.01
Continental Air Lines, Inc.	34,155,540	10,400,130	17,164,166	17,617,050	60.14	33.81
Delta Air Corporation	112,667,778	50,066,881	45,083,924	48,627,183	73.99	44.59
Eastern Air Lines, Inc.	2,473,888,653	1,268,969,165	311,483,029	391,208,667	70.01	54.05
Inland Air Lines, Inc.	7,358,698	5,571,238	9,064,872	11,829,990	36.32	26.66
Mid-Continent Airlines, Inc.	27,156,367	20,217,234	16,379,785	24,577,974	45.86	37.17
National Airlines, Inc.	61,679,928	18,882,703	20,942,834	20,065,422	73.59	44.71
Northeast Airlines, Inc.	22,685,699	11,637,784	14,980,294	18,017,299	35.94	30.27
Northwest Airlines, Inc.	856,605,160	416,048,017	79,577,636	119,559,604	65.42	49.90
Pennsylvania-Central Airlines Corp.	467,834,158	272,355,058	83,380,170	127,231,769	65.94	51.51
Transcontinental & Western Air, Inc.	4,794,155,293	1,623,830,627	283,236,113	344,436,557	71.24	58.79
United Air Lines Transport Corporation	7,358,786,587	3,247,420,704	333,822,842	409,114,865	81.96	66.45
Western Air Lines, Inc.	567,022,831	282,202,215	39,348,869	48,632,298	62.43	47.07
Total	23,435,208,925	10,485,058,005	1,937,672,755	2,316,205,507	72.15	59.13
Index (1941=100)	223.51	100.00	83.66	100.00	122.02	100.00

	January	February	March	April	May	June	July
Passengers carried (Total revenue and nonrevenue) 1942	300,900	286,435	371,398	428,153	369,776	240,916	262,715
Passenger miles flown (Total revenue and nonrevenue) 1942	113,134,990	104,219,667	139,060,782	158,217,575	144,947,151	109,253,326	116,104,036
	August	September	October	November	December	Total	
Passengers carried (Total revenue and nonrevenue) 1942	283,145	273,022	273,162	240,705	202,623	3,532,860	
Passenger miles flown (Total revenue and nonrevenue) 1942	127,393,405	125,327,381	128,328,838	112,488,033	96,308,472	1,474,783,656	

<sup>1</sup> Catalina Air Transport suspended operations June 24.



## Comparative Charts of Domestic Operations for the Years of 1940, 1941, and 1942



### Designation of Medical Examiners

During the months of January and February 1943 the following named physicians were officially designated to perform physical examinations for the Administrator:

CALIFORNIA—Dr. L. S. Bambauer, Bishop; Dr. Arthur Joseph Fleisher, 2490 Channing Way, Berkeley.

GEORGIA—Dr. Clarence Ravenel Avant Redmond, 11 W. Jones, Savannah.

IOWA—Dr. Arthur Norman Schanche, 405 Douglas, Ames.

MAINE—Dr. Napoleon Bisson, 28 Common, Waterville.

MONTANA—Dr. Oscar Gustav Benson, Plentywood.

NEVADA—Dr. George Seymour Weiss, 150 Bridge Street, Winnemucca.

PENNSYLVANIA—Dr. Robert Parker Banks, 210 Bridge Street, Millintown.

TEXAS—Dr. Claire F. Miller, 708 Franklin, Waco.

WASHINGTON—Dr. Wilfred Ewart Newman, 407 Riverside Avenue, Spokane.

### Examinations Discontinued

The following named physicians are no longer making examinations for the Administrator at the cities indicated:

Dr. F. B. Gillespie, Fairbanks, Alaska.  
 Dr. Lee Stagg, Ketchikan, Alaska.  
 Dr. Wilfred Snodgrass, St. Johns, Ariz.  
 Dr. Robert Lewis, Berkeley, Calif.  
 Dr. Laurence B. Dunn, Savannah, Ga.  
 Dr. Joyce F. Mixon, Jr., Valdosta, Ga.  
 Dr. Joe G. Fellows, Ames, Iowa.  
 Dr. Lawrence M. Larson, Minneapolis, Minn.  
 Dr. Lin S. Felder, Winnemucca, Nev.  
 Dr. William Dale Beamer, Tarentum, Pa.  
 Dr. Paul M. Cornann, Bellefonte, Pa.  
 Dr. Raymond M. Krepps, Lewistown, Pa.  
 Dr. Clute E. Rayburn, Waco, Tex.  
 Dr. M. M. Kalez, Spokane, Wash.

### Airline Examiners Discontinued

Dr. F. B. Gillespie, Fairbanks, Alaska.  
 Dr. Robert Lewis, Berkeley, Calif.  
 Dr. Laurence B. Dunn, Savannah, Ga.  
 Dr. Lawrence M. Larson, Minneapolis, Minn.

### Now We Have "Flying Jeeps"

Production of the L-5 Sentinel or "Flying Jeep" has been started at the Wayne, Mich., plant of the Stinson Division of Vultee Aircraft, Inc., the new plane being a small highly-maneuverable craft designed to be the "eyes upstairs" of the artillery, tank corps, cavalry and infantry.

The "Flying Jeep," carrying a pilot and an observer, can land without difficulty on such limited areas as a cow pasture or a highway. Its fuselage is constructed of molded steel tubing, its wings and tail surfaces are of wood and its weight is but 2,100 pounds.

### Pilot Training

(Continued from page 25)

elementary, secondary, cross-country and instructor courses to the Army; elementary, secondary and intermediate courses to the Navy; and a limited number of elementary graduates to the Marines.

In order to make the two valuable flight instruction books available to civilians the Administration has issued them as CAA bulletins and has requested the Superintendent of Documents, Government Printing Office, Washington, D. C., to place a limited number on sale. "Patter for Elementary Flight Maneuvers" has been designated as Bulletin No. 31, and "Fundamentals of Elementary Flight Maneuvers" as Bulletin No. 32. They will be available, at 15 cents a copy, by the time subscribers receive this issue of the Journal.

### Former CAA Man Pilots Secretary Knox

When Secretary of Navy Knox made his inspection tour of the Naval bases in Guadalcanal and other areas in the Pacific a month or so ago, he was piloted around the southern Pacific by Major Jack R. Cram, USMC, formerly with the CAA.

Recently Major Cram was awarded the Navy Cross. Acting in an emergency, he took off in his Catalina flying boat, a ship not built for combat duty, and with a green crew of seven, he torpedoed and sank a Japanese transport. The members of the crew were each awarded the flying cross.

Before being called by the Marines, Major Cram was Chief of the Standards Division of the former Civilian Pilot Training Service.

### References

(Continued from page 25)

(2) Aviation Education Research Group, "Elements of Pre-Flight Aeronautics for High Schools," pp. 53; 60; 68-138.

(3) Hamburg and Tweney, "American Student Flyer," pp. 345-450.

(4) Pope and Otis, "Elements of Aeronautics," pp. 402-407; 423-527; 546-565.

(5) Shields, "Air Pilot Training," pp. 357-434.

Copies of the CAA Special Study References in Pre-Flight Aeronautics have been distributed by the state departments of education. However, extra copies of these sheets may be obtained by communicating with the Pre-Flight Aeronautics Program, Civil Aeronautics Administration, Commerce Building, Washington, D. C.

# CIVIL AERONAUTICS BOARD

## OFFICIAL ACTIONS

### Abstracts of Opinions, Orders, and Regulations

#### ORDERS

ORDER No. 2142----- February 1, 1943  
Suspended private pilot certificate of Jack R. Blough until such time as he shall have passed the required flight test.

ORDER No. 2143----- February 1, 1943  
Fixed rate of compensation at 0.3 mill per pound mile of mail carried by United Air Lines Transport Corporation over routes No. 1, 11, 17 and 57.

ORDER No. 2144----- February 3, 1943  
Granted Pan American-Grace Airways, Inc., permission to serve Ipiales, Colombia, through the use of the Ipiales Airport, Ipiales, Colombia, beginning February 2, 1943, subject to any necessary amendment of their certificate.

ORDER No. 2145----- February 3, 1943  
Granted Chicago and Southern Air Lines, Inc., permission to serve Little Rock, Ark., through the use of the Little Rock Municipal Airport (Adams Field) beginning February 15, 1943, subject to any necessary amendment of their certificate.

ORDER No. 2146----- February 3, 1943  
Approved an agreement (Contract CAB No. 99-A) between United Air Lines Transport Corporation and Western Air Lines, Inc., relating to the temporary loan of Douglas DC-3 or Douglas DST airplanes for emergency use.

ORDER No. 2147----- February 3, 1943  
Temporarily exempted Arthur G. Woodley, doing business as Woodley Airways, from certain provisions of the Civil Aeronautics Act, so as to permit air transportation to and from Homer, Alaska, on its route between Anchorage and Niniichik, subject to certain conditions.

ORDER No. 2148----- February 8, 1943  
Approved an agreement (Contract CAB No. 239) between certain airlines re an Interline Ticketing and Baggage Agreement.

ORDER No. 2149----- February 6, 1943  
Fixed rate of compensation for the transportation of mail by Transcontinental and Western Air, Inc., over routes Nos. 2, 36, 37, 38, and 44 at 0.3 mill per pound mile of mail carried. (Opinion and order—Dockets 604 and 634)

ORDER No. 2150----- February 8, 1943  
Exempted Compania Mexicana De Aviacion, S. A., from certain provisions of the Civil Aeronautics Act so as to permit charter operation for Pan American Airways, Inc., between Mexico City, Mexico, and Brownsville, Tex.

ORDER No. 2151----- February 12, 1943  
Waived a portion of Section 21.161 (b) of the Civil Air Regulations re petition of Joe E. Miller.

ORDER No. 2152----- February 13, 1943  
Approved cancellation of an agreement (Contract CAB No. 207-A) between United Air Lines Transport Corp. and Western Air Lines, Inc., re furnishing of services at Lockheed Air Terminal, Burbank, Calif.

ORDER No. 2153----- February 13, 1943  
Approved applications re interlocking relationships of George W. Burpee and American Export Airlines, Inc.

ORDER No. 2154----- February 15, 1943  
Revoked flight instructor rating of Alton S. Fell for piloting aircraft at an altitude of less than 500 feet and permitting his students to do likewise, and other violations of the Civil Air Regulations.

ORDER No. 2155----- February 18, 1943  
Granted Rickliffe M. Decker a limited time in which to file an answer to an amended complaint.

ORDER No. 2156----- February 18, 1943  
Amended Order, Serial No. 2096, so as to authorize Eastern Air Lines, Inc., to suspend service temporarily at Baton Rouge, La., for the period from Dec. 15, 1942, to April 15, 1943.

ORDER No. 2157----- February 18, 1943  
Prescribed Amendment No. 2 to the Form of Report of Financial and Operating Statistics for Domestic Air Carriers. (CAB Form 2780)

ORDER No. 2158----- February 18, 1943  
Prescribed Amendment No. 5 to the Uniform System of Accounts for Domestic Air Carriers. (CAB Form 2780 Manual)

ORDER No. 2159----- February 20, 1943  
Temporarily exempted Pan American Airways, Inc., from certain provisions of the Civil Aeronautics Act of 1938 so as to permit transportation to and from Maturin, Venezuela, instead of Caripito, Venezuela, pending the Board's decision.

ORDER No. 2160----- February 24, 1943  
Reopened proceeding re compensation for transportation by Pan American Airways, Inc., between San Francisco and Auckland, New Zealand, and San Francisco and the British Crown Colony of Hong Kong and Singapore, for the purpose of receiving additional evidence concerning the sale of certain aircraft to the British Government.

ORDER No. 2161----- February 24, 1943  
Denied petition of Pennsylvania-Central Airlines Corporation to intervene in the matter of the applications of Eastern Airlines, Inc., and Transcontinental and Western Air, Inc., for certificates of public convenience and necessity under section 401 of the Civil Aeronautics Act of 1938.

ORDER No. 2162----- February 24, 1943  
Denied petition of Pennsylvania-Central Airlines Corporation to intervene in the matter of the application of United Air Lines Transport Corporation and Transcontinental and Western Air, Inc., for certificates of public convenience and necessity under section 401 of the Civil Aeronautics Act.

ORDER No. 2163----- February 27, 1943  
Directed Northwest Airlines, Inc. to show cause why the tentative findings and conclusions re compensation for the transportation of mail, etc., over routes Nos. 3 and 45 should not be made final.

#### REGULATIONS

REGULATION No. 257-- February 17, 1943  
Effective March 19, 1943.

*Revised Rules of Practice.* Consists primarily of the existing Rules of Practice and amendments thereto with minor changes in subsection (a) of Section 285.3; the fifth paragraph of Section 285.8; and subsection (b) of Section 285.12.

REGULATION No. 258-- February 17, 1943  
AMENDMENT No. 2 OF SECTION 287.1 OF THE ECONOMIC REGULATIONS—DEFINITIONS OF TERMS USED IN RULES, REGULATIONS, AND ORDERS OF THE BOARD.

Effective March 19, 1943, subsection (b) of Section 287.1 of the Economic Regulations is hereby amended to read as follows:

"(b) The regulations of the Board may be cited by section numbers. For example, this Regulation may be cited as 'Section 287.1 of the Economic Regulations.' The sections contained in Part 285 of the Economic Regulations, constituting the Rules of Practice under Title IV and sections 1002 (d) to (i) of the Act, may also be cited by appropriate rule numbers. For example, Section 285.16 may be cited as 'Rule 16 of the Rules of Practice,' or as 'Section 285.16 of the Economic Regulations.'"

REGULATION No. 259-- February 17, 1943  
Effective March 19, 1943, section 238.1 of the Economic Regulations is hereby amended in its entirety to read as follows:

SECTION 238.1 OF THE ECONOMIC REGULATIONS—APPLICATIONS FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY

(a) *Formal Requirements of Applications.* Applications for certificates of public convenience and necessity or amendments thereof, shall meet the requirements set forth in section 285.3 of the Economic Regulations as to (1) execution, number of copies and

service; (2) verification; and (3) formal specifications of papers. All pages of an application shall be consecutively numbered and the application shall clearly describe and identify each exhibit by a separate number or symbol. All exhibits shall be deemed to constitute a part of the application to which they are attached.

(b) **Amendments to Application.** If, after receipt of any application, the Board shall request the applicant to supply it with additional information, such information shall be furnished in the form of an amendment to the original application. All amendments to applications shall be consecutively numbered and shall comply with the requirements of this Regulation as to form, number of copies, verification, and in all other essential respects. In the event that any application shall be amended so as to alter the route or routes, the terminal or intermediate points, or the classes of traffic covered by such application, the amendment shall contain a statement that notice of such amendment has been served upon such persons, in such form and manner, and containing such information as is required by clause 6 of paragraph (d) of this section for the service of notice of transmittal to the Board of an original application.

(c) **Incorporation by Reference.** In general it is desirable that incorporation by reference shall be avoided. However, where two or more applications are filed by a single carrier, lengthy exhibits or other documents attached to one may be incorporated in the others by reference if that procedure will substantially reduce the cost to the applicant.

(d) **General Provisions Concerning Contents.** The statements contained in an application shall be restricted to significant and relevant facts. They shall be free from argumentation or from expressions of opinion, except such as may be required by this Regulation.

Each application shall give full and adequate information with respect to each of the items set forth in this paragraph. In addition, the application may contain such other information and data as the applicant shall deem necessary or appropriate in order to acquaint the Board fully with the particular circumstances of its case. Among other things, every such application shall give the following information:

1. The full name and address of the applicant, the nature of its organization (individual, partnership, corporation, etc.), and the name of the state under the laws of which it is organized.

2. A statement that the applicant is a citizen of the United States, as defined by section 1 (13) of the Act. It is not required that the application shall contain all the evidence which the applicant is prepared to present at the hearing or otherwise in support of such statement, but the application shall at least indicate the nature and results of its investigations in that matter and the character of the evidence it will be prepared to present in support of citizenship.

3. An adequate identification of each route for which a certificate is desired, specifying the type or types of service (mail, passengers, and property) to be rendered on each such route, and whether or not such services are to be rendered in scheduled operations. The identification of each route shall name every terminal and intermediate point to be included in the certificate for which application is made.

4. A map (which may be attached as an exhibit) drawn approximately to scale showing all terminal and intermediate points to be served, giving the approximate mileages between all adjacent points, and the principal or all distant points which are now served by air carriers, indicating by arrows the directions flown by such interconnecting carriers and stating their principal terminals, for example, "to Dallas" or "to Chicago."

5. State the type of aircraft applicant proposes to use in the new service and whether such aircraft is presently owned by the applicant.

6. State that the applicant has caused a notice of the filing of such application to be served upon each person named in the most recently issued LIST OF HOLDERS OF CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY ISSUED BY THE CIVIL AERONAUTICS BOARD AND OF APPLICANTS FOR SUCH CERTIFICATES (EXCEPT THOSE RELATING TO ALASKA).

If the application involves service to, or from Alaska, the notice shall also be served on each person named in the most recently issued LIST OF ALASKAN AIR CARRIERS AND APPLICANTS FOR CERTIFICATES INVOLVING SERVICE TO, FROM, OR WITHIN ALASKA. If the application involves transportation solely within the Territory of Alaska, the application need only state that the notice has been served on the persons named in the last-mentioned list. The notice shall contain a brief statement of the authorization requested, the date on which the application was or will be filed with the Board, and may be served personally or by mail. The application shall set forth the notice and indicate the list or lists of persons upon whom it was served.

7. If applicant does not hold a certificate of public convenience and necessity authorizing air transportation, state the name and type of business of any affiliate, subsidiary, or principal stockholder of applicant engaged in any form of transportation as common carrier or engaged in any phase of aeronautical activity.

(c) **Applications for Operations Other than between Fixed Points.** An application for a certificate authorizing operations other than between fixed points, or not having terminal or intermediate points capable of precise description, need comply with the provisions of clauses 3 and 4 of paragraph (d) of this Regulation only to the extent that it shall clearly describe the authorization sought by the applicant.

#### REGULATION No. 260... February 17, 1943

Effective February 17, 1943:

Effective immediately, pursuant to section 60.3301 of the Civil Air Regulations, the following deviations from the left-hand circle rule are prescribed unless the pilot receives other instructions from the air-traffic controller operator.

(a) Meacham Field, Fort Worth, Tex. All turns by aircraft approaching for a landing to the northeast or after take-off to the northeast shall be made to the right.

(b) Weeks Field, Fairbanks, Alaska. All turns by aircraft approaching for a landing to the east or after take-off to the east shall be made to the right.

(c) Merrill Field, Anchorage, Alaska. All turns by aircraft approaching for a landing to the south or east or after take-off to the south or east shall be made to the right.

#### REGULATION No. 261... February 20, 1943

EFFECTIVE February 20, 1943:

"Notwithstanding any provisions of the Civil Air Regulations dealing with minimum visibility required for contact flight, airplanes of the United States Army making ferry flights may operate, in case of military necessity, over the civil airways under contact flight rules when local visibility conditions at airports used are below the minimum visibility requirements for operation under such flight rules; *Provided*, That the visibility along the airway to be flown is above such minimums.

This Special Regulation shall be effective for a period of ten days from February 20, 1943."

#### REGULATION No. 262... February 22, 1943

EFFECTIVE February 22, 1943:

Regulation designated Serial Number 244, relating to the issuance of commercial pilot certificates and appropriate ratings to citizens of friendly foreign governments, adopted by the Civil Aeronautics Board on October 28, 1942, is hereby repealed.

#### AMENDMENT 24-1... January 21, 1943

Effective January 21, 1943:

Part 24 of the Civil Air Regulations is amended as follows:

1. Amend section 24.2 to read as follows: "24.2 **Mechanic ratings.** Mechanic ratings are as follows:

(a) Aircraft mechanic rating;  
(b) Aircraft engine mechanic rating;  
(c) Factory mechanic rating.

2. Strike section 24.22, including subsections 24.220, 24.221 and 24.222, and insert in lieu thereof "24.22 (*Unassigned*)."

3. Amend the table of contents to conform to this amendment.

#### AMENDMENT 24-2... February 8, 1943

Effective February 8, 1943:

Section 24.36 of the Civil Air Regulations is amended as follows:

24.36 **Reexamination.** An applicant for a mechanic certificate or rating who has failed any prescribed practical or theoretical examination or test may apply for reexamination at any time after the expiration of 30 days from the date of such failure: *Provided*, That an applicant who has failed only the examination on the pertinent Civil Air Regulations may apply for reexamination on the Civil Air Regulations after he has received not less than 5 hours instruction on the Civil Air Regulations from a certificated ground instructor and presents a statement from such instructor showing the amount of instruction given and stating that he deems the applicant qualified to pass the required examination.

#### AMENDMENT 25-0... January 21, 1943

Effective January 21, 1943:

#### PART 25—PARACHUTE TECHNICIAN CERTIFICATES

**Certificates and Ratings:**  
25.0 Certification of parachute technicians.  
25.00 Classification of parachute technicians.

**Qualifications for Parachute Technician Certificates:**

25.1 Parachute rigger grade.  
25.10 Citizenship.  
25.11 Age.  
25.13 Moral character.  
25.13 Education.  
25.14 Knowledge.  
25.15 Experience.  
25.16 Military competence.  
25.2 Senior parachute rigger grade.  
25.3 Master of parachute maintenance grade.

**Qualifications for Ratings:**  
25.5 Special ratings.  
25.50 Parachute jumper rating.  
25.51 Parachute instructor rating.

**Examinations and Tests:**  
25.6 General.  
25.60 Standard of performance.  
25.61 Physical examinations.  
25.62 Reexaminations.

**Issuance and Duration of Certificates:**  
25.7 General.  
25.70 Duration.  
25.71 Revocation.

**Regulations and Limitations:**  
25.8 General.  
25.80 Service limitations.  
25.81 Log-book.  
25.82 Display of certificate.  
25.83 Inspection.  
25.84 Surrender of certificate.  
25.85 Notice of defects.  
25.86 Seal.  
25.87 Parachute record.  
25.88 Reports.  
25.89 Transfer.  
25.9 Minimum facilities.

#### CERTIFICATES AND RATINGS

25.0 **Certification of parachute technicians.** An airman certificate may be issued by the Administrator to a person qualified in accordance with the provisions hereinafter prescribed to perform the duties of parachute technician.

25.00 **Classification of parachute technicians.** Parachute technicians shall be classified in the following ascending grades:

(a) Parachute rigger;  
(b) Senior parachute rigger;  
(c) Master of parachute maintenance.

#### QUALIFICATIONS FOR PARACHUTE TECHNICIAN CERTIFICATES

25.1 **Parachute rigger grade.**  
25.10 **Citizenship.** Applicant shall be:  
(a) A citizen of and of unquestionable loyalty to the United States, or  
(b) A person who is in sympathy with the objectives of the United States, and who is a trustworthy citizen of a friendly foreign government not under the domination of or associated with any government with which the United States is at war.

25.11 **Age.** Applicant shall be not less than 18 years of age.



**25.12 Moral character.** Applicant shall be of good moral character.

**25.13 Education.** Applicant shall be able to read, write, and understand the English language: *Provided*, That a citizen of Puerto Rico, or an applicant who is employed by an air carrier outside the United States, need not be able to read, write, speak, or understand the English language except that a certificate issued to such an applicant shall be valid only in Puerto Rico, or only while employed by an air carrier outside of the United States, as the case may be.

**25.14 Knowledge.** Applicant shall pass a written, oral, and practical examination on (a) the construction, inspection, packing, maintenance, use of, and the manufacturer's instructions with respect to at least one make and type of parachute in common commercial use, and (b) the pertinent provisions of the Civil Air Regulations and related manuals.

**25.15 Experience.** Applicant shall have performed satisfactory service in the packing of at least 20 parachutes of each type for which he seeks a rating under the supervision of a properly qualified and certificated parachute technician.

**25.16 Military competence.** An applicant who is or was within the 60 days preceding application a regular or reserve member of the Army, Navy, Marine Corps, or Coast Guard on active duty as a parachute technician for a period of not less than one year, upon passing the prescribed written examination on the pertinent Civil Air Regulations and presentation of a statement from the appropriate military authorities attesting to such experience, will be deemed to have met the requirements of §§ 25.14 and 25.15.

**25.2 Senior parachute rigger grade.** Applicant shall comply with the provisions of §§ 25.10 through 25.15 and in addition thereto he shall:

(a) Demonstrate to the satisfaction of the Administrator that he has a thorough practical and theoretical knowledge of the construction, inspection, packing, maintenance, use of, and repairs to at least 3 types of parachutes in common commercial use including the manufacturer's instructions with respect to such subjects;

(b) Present proof satisfactory to the Administrator that he has served as a properly qualified and certificated parachute technician or as a mechanic with a rating as a parachute rigger for a period of at least 2 years; and

(c) Present proof satisfactory to the Administrator that he has satisfactorily serviced and packed at least 25 parachutes of each make and type for which he seeks to be rated.

**25.3 Master of parachute maintenance grade.** Applicant shall comply with the provisions of §§ 25.10 through 25.15 and in addition thereto he shall:

(a) Demonstrate to the satisfaction of the Administrator that he has a thorough practical and theoretical knowledge of the construction, inspection, packing, maintenance, use of, and repairs to the products of not less than 3 different manufacturers including at least 4 types of parachutes and 3 types of canopies, and the ability to properly supervise all operations in connection therewith.

(b) Present proof satisfactory to the Administrator that he has served as a certificated parachute technician for a period of at least 5 years, and that he has satisfactorily serviced and packed not less than 200 parachutes of various makes and types and not less than 25 of each type and make of parachute for which he is rated; and

(c) Present written statements satisfactory to the Administrator attesting to his character, responsibility, skill, ability, and length of service, and recommending him for a "Master of Parachute Maintenance" grade.

#### QUALIFICATIONS FOR RATINGS

**25.5 Special ratings.** Special parachute ratings are as follows:

- (a) Parachute jumpers;
- (b) Parachute instructor.

**25.50 Parachute jumper rating.** A special rating of parachute jumper will be entered on the Airman Rating Record of a certificated parachute technician who, after inspection and examination, is found by the Administrator to meet the requirements therefor and if less than 21 years of age, to have obtained the written consent of either parent, or legal or natural guardian.

**25.500 Knowledge.** Applicant must pass a written, oral, and practical examination demonstrating a practical and theoretical knowledge of the proper methods and procedures

for making test and exhibition jumps, which shall include methods of leaving and clearing aircraft with relation to the speed and altitude thereof, emergency measures to be taken in the event of malfunction of the parachute during the opening and subsequent operation thereof, and the proper method of manipulation and control of the parachute during descent and landing.

**25.501 Experience.** Applicant shall present proof satisfactory to the Administrator that he has satisfactorily accomplished at least 10 jumps without injury to himself or damage to his equipment.

**25.502 Physical condition.** Applicant shall meet the physical standards of the third class prescribed in Part 29.

**25.51 Parachute instructor rating.** A special rating of parachute instructor will be entered on the Airman Rating Record of a certificated parachute technician who satisfactorily passes a written, oral, and practical examination demonstrating his ability to teach the processes and procedures which, in the opinion of the Administrator, are deemed necessary and appropriate for the construction, inspection, packing, maintenance, repair, and use of parachutes.

#### EXAMINATIONS AND TESTS

**25.6 General.** All examinations and tests prescribed herein shall be conducted at a time and place designated by the Administrator.

**25.60 Standard of performance.** The passing grade of any theoretical examination shall be 70 percent. The prescribed practical examinations must be accomplished to the satisfaction of the Administrator.

**25.61 Physical examinations.** The appropriate physical examination prescribed for a parachute jumper rating shall be accomplished before any practical or theoretical test or examination will be given, and shall be completed within the 12 calendar months preceding such test.

**25.63 Recexamination.** An applicant who has failed to:

(a) Accomplish successfully any prescribed theoretical examination may apply for reexamination at any time after the expiration of 30 days from the date of such failure; or

(b) Accomplish successfully any prescribed practical examination or test may apply for reexamination (1) after expiration of 30 days from the date of such failure, and (2) after he submits proof satisfactory to the Administrator that he has received adequate instruction by a certificated parachute technician holding a rating for the make and type of parachute on which he failed to demonstrate his ability.

#### ISSUANCE AND DURATION OF CERTIFICATES

**25.7 General.** Application for a parachute technician certificate and rating shall be made upon the applicable form prescribed and furnished by the Administrator.

**25.70 Duration.** A parachute technician certificate issued hereunder shall be of 60 days' duration and unless the holder thereof is otherwise notified by the Administrator within such period it shall continue in effect thereafter, until otherwise specified by the Board, unless suspended or revoked.

**25.700 Existing certificates.** A currently effective mechanic certificate with a parachute rigger rating shall continue in effect for a period of not to exceed 6 months after the effective date of this Part, during which time the holder thereof may secure upon application a parachute technician certificate of:

(a) Parachute rigger grade with appropriate ratings; or

(b) A higher grade with appropriate ratings upon demonstrating to the satisfaction of the Administrator that he is able to meet the standards currently prescribed in the Civil Air Regulations for the issuance of such grade and ratings.

**25.71 Revocation.** No person whose parachute technician certificate has been revoked shall apply for or be issued a parachute technician certificate for a period of one year after the revocation, except as the order of revocation may otherwise provide.

#### REGULATIONS AND LIMITATIONS

**25.8 General.** A certificated parachute technician shall not serve as such unless:

(a) He has in his possession in addition to his parachute technician certificate, an identification card satisfactory to the Admin-

istrator containing his fingerprints, picture, and signature; and

(b) There is attached as part of his certificate the appropriate Airman Rating Record prescribed and issued by the Administrator setting forth such limitations as to type and make of parachute and such other limitations as the Administrator may prescribe.

**25.80 Service limitations.** A certificated parachute technician shall not:

(a) Perform any act or serve in any manner in connection with his certificate which will adversely affect public safety;

(b) Pack any parachute which is not in condition for safe use;

(c) Serve otherwise than in accordance with the terms, limitations, and conditions of his certificate and rating record except as provided hereinafter: *Provided*, That the holder of a mechanic certificate with a parachute rigger rating in effect on the 21st day of January 1943 may perform service pursuant to the terms of such certificate and rating record for a period not to exceed 6 months after the effective date of this Part;

(d) Pack a parachute for use by any person other than himself; unless:

(1) Such parachute has been thoroughly dried and aired for a period of at least 12 hours for each 30 days since the time of its last packing; and

(2) Such parachute is packed in accordance with the approved method of the manufacturer and in a place where the minimum facilities prescribed in § 25.9 are available; and

(3) Within the preceding 30 days he has reviewed the manufacturer's instructions with respect to the packing of the particular type if more than 6 months have elapsed since he last packed a parachute of that make and type; and

(4) Within the preceding 30 days he has reviewed the manufacturer's instructions with respect to the packing of the particular type and has made at least 10 practice packings of that type if more than 12 months have elapsed since he last packed a parachute of the identical make and type;

(e) Make any modification, alteration, or major repair not specifically authorized in writing by the manufacturer of the parachute, or the Administrator, or make any substitution of materials or parts on any parachute, or in any way deviate from the manufacturer's approved procedures of packing any make or type of parachute.

**25.800 Parachute rigger.** A parachute rigger shall not make any major repairs to parachutes unless he is under the supervision of a person deemed competent for the purpose by the Administrator.

**25.801 Senior parachute rigger.** A senior parachute rigger shall not make any major repairs to parachutes except to those types for which he is rated unless he is under the supervision of a person deemed competent for the purpose by the Administrator; nor shall such repairs be made otherwise than in a manner which will restore the equipment to an airworthy condition.

**25.802 Master of parachute maintenance.** A master of parachute maintenance shall not make any major repairs to parachutes except in a manner which will restore the equipment to an airworthy condition.

**25.803 Parachute instructor.** A certificated parachute technician with a parachute instructor rating shall not permit any student under his supervision to make a training or exhibition parachute jump unless such student has been thoroughly instructed in the proper methods of making such jumps and the instructor is satisfied that the student has the theoretical knowledge prescribed in § 25.500, and has passed the physical examination prescribed in § 25.502.

#### 25.81 Log-book.

**25.810 Individual log-books.** A certificated parachute technician shall keep a record of his parachute packing and jumping operations in a log-book, which shall be a bound record and contain accurate and legible entries in ink or indelible pencil.

**25.811 Contents.** The log-book shall contain the date of packing or jumping, name and address of the owner, serial number of each parachute, its type and manufacturer, place where packed or jumped, the certificate number of the parachute technician, and a record of drop tests and repairs. Such log-book shall be presented to any authorized representative of the Administrator, or any



State or municipal officer enforcing local regulations or laws involving Federal compliance upon request and reasonable notice.

**55.81 Master log-book.** A certificated parachute technician in charge of parachute maintenance operations, in which two or more certificated parachute technicians are engaged in the same parachute loft, shall be responsible for the maintenance of a master log-book which shall contain all of the information prescribed in § 25.811.

**55.82 Display of certificate.** A certificated parachute technician shall keep his certificate readily available when on duty and shall present it for inspection upon reasonable request by an authorized person or representative of the Administrator or Board or of any State or municipal officer enforcing local regulations or laws involving Federal compliance.

**55.83 Inspection.** An applicant or holder of a parachute technician certificate upon reasonable request by any representative of the Administrator shall cooperate fully in any examination which may be made of him.

**55.84 Surrender of certificate.** Upon the suspension, expiration, or revocation of any certificate, the holder shall upon request surrender such certificate to any duly authorized representative of the Administrator.

**55.85 Notice of defects.** A certificated parachute technician upon refusal to pack any defective parachute, shall give notice thereof to the owner and forward a copy to the manufacturer of the parachute and to the Administrator. Such notice shall contain the owner's name and address, the manufacturer's name, serial number, date of manufacture, the type, material, and basic construction of the canopy, a statement containing the parachute's use and history, if known, and the reasons for refusing to pack the parachute.

**55.86 Seal.** Each certificated parachute technician shall have a seal press of suitable design with an individual identifying marker assigned by the Administrator. Upon repacking any parachute, he shall seal the pack release with a thread of not more than two pounds tensile strength, and affix his seal in such a manner that it cannot interfere in any way with the prompt and proper functioning of the parachute, and shall make certain that the parachute cannot be opened without the destruction of the seal.

**55.87 Parachute record.** A certificated parachute technician shall enter on the parachute packing record of each parachute packed by him the date and place of packing, his signature, and his certificate number.

**55.88 Reports.** A certificated parachute technician shall transmit to the Administrator, annually, during the month of January, a report for the preceding 12-month period, setting forth the number and type of parachutes packed and such other pertinent data as the Administrator may require.

**55.89 Minimum facilities.** Unless prior approval has been obtained from the Administrator, a certificated parachute technician shall not pack or repack any parachute or make any minor parachute repairs in a place other than where the following facilities for such operations are available:

(a) A suitable smooth-top table at least 3 x 40 feet in length;

(b) A suitable compartment where parachutes may be suspended for drying and airing;

(c) Packing tools and repair equipment suitable for the repacking and repair of the type of parachute involved; and

(d) Adequate housing facilities for such equipment.

**AMENDMENT 40-1----- January 21, 1943**

Effective January 21, 1943:

Part 40 of the Civil Air Regulations is amended as follows:

Strike the phrase "50 miles" as it appears in section 40.203 and insert in lieu thereof the phrase "100 miles."

**AMENDMENT 54-0----- January 21, 1943**  
Effective January 21, 1943:

## **PART 54—PARACHUTE LOFT CERTIFICATES AND RATINGS**

### **Ratings:**

54.1 Parachute loft ratings.

### **Parachute Loft Certificate Requirements:**

54.2 Certificate requirements.

54.20 Personnel.

54.21 Facilities and equipment.

### **Issuance and Duration:**

54.3 Application.

54.30 Duration.

54.31 Application to amend.

### **Regulations and Limitations:**

54.4 General.

54.400 Display.

54.401 Transfer.

54.402 Surrender.

54.403 Inspection.

54.404 Revocation.

54.41 Records.

54.410 Parachute Loft Rating Record.

54.411 Recording major repair and alteration operations.

54.42 Maintenance, personnel, facilities, equipment, and material.

54.43 Airworthiness requirements for maintenance, repairs, and alterations.

54.430 Quality of maintenance, repairs, and alterations.

54.431 Materials.

54.432 Reporting defects or unairworthy conditions.

54.433 Agencies authorized to perform maintenance, repairs, alterations, and inspections.

54.434 Drop testing of parachutes.

### **Definitions:**

54.5 General.

54.50 Parachute.

54.500 Canopy.

54.501 Harness.

54.502 Container.

54.503 Accessory.

54.51 Manufacturer.

54.52 Routine maintenance.

54.53 Repairs.

54.530 Minor repairs.

54.531 Major repairs.

54.54 Alterations.

54.540 Minor alterations.

54.541 Major alterations.

54.55 Overhaul.

## **RATINGS**

54.1 Parachute loft ratings. The following ratings may be issued prescribing the type of work the holder of a parachute loft certificate is qualified to perform:

- (a) General maintenance and minor repair;
- (b) Canopy overhaul;
- (c) Harness overhaul;
- (d) Metal parts and container overhaul;
- (e) Drop testing.

## **PARACHUTE LOFT CERTIFICATE REQUIREMENTS**

54.2 Certificate requirements. To be eligible for a rating as a parachute loft certificate as such an applicant shall comply with the following requirements:

54.20 Personnel. Applicant shall have adequate personnel certificated in accordance with the provisions of Part 25 of the Civil Air Regulations and qualified to perform or supervise the type of work involved; and

54.21 Facilities and equipment. Applicant shall have such equipment, facilities, and material as are necessary for the competent and efficient performance of the type of work for which a rating is sought. Such facilities shall include suitable and adequately heated, lighted, and ventilated housing; an adequate system of inspection; adequate equipment for making drawings and adequate facilities for the segregation and storage of parts and materials.

*Note.*—A manual will be issued outlining facilities, equipment, and personnel which will comply with the requirements of this section.

## **ISSUANCE AND DURATION**

54.3 Application. Application for a parachute loft certificate and appropriate ratings shall be made upon the applicable form prescribed and furnished by the Administrator.

54.30 Duration. A parachute loft certificate shall remain in effect indefinitely, unless suspended or revoked: *Provided*, That such certificate may be cancelled by the Administrator at any time within 60 days after issuance.

54.31 Application to amend. Application for a change in the Parachute Loft Rating Record of a certificated parachute loft shall be made upon the applicable form prescribed and furnished by the Administrator.

## **REGULATIONS AND LIMITATIONS**

### **54.4 General.**

54.400 Display. A parachute loft certificate shall be displayed in a prominent place in the parachute loft.

54.401 Transfer. A parachute loft certificate may not be transferred.

54.402 Surrender. Upon the suspension, revocation, or expiration of a parachute loft certificate, the holder thereof upon request shall surrender such certificate to any officer or employee of the Administrator.

54.403 Inspection. An applicant for a parachute loft certificate shall cooperate fully in any inspection or examination which may be made of such applicant, applicant's personnel, facilities, equipment, and records, upon proper request by an authorized representative of the Administrator, prior or subsequent to the issuance of a parachute loft certificate.

54.404 Revocation. No person whose parachute loft certificate has been revoked shall apply for or be issued a parachute loft certificate or any rating for a period of one year after the revocation of such certificate except as the order of revocation may otherwise provide.

54.41 Records. The holder of a parachute loft certificate shall maintain adequate records, which shall include the names of the persons who performed the work and the type of work performed. Such records shall be kept for at least two years.

54.410 Parachute Loft Rating Record. An appropriate Parachute Loft Rating Record prescribed and issued by the Administrator shall be attached to each parachute loft certificate issued. The record shall contain the type of repair, operation, maintenance, and overhaul of parachutes for which the holder of such certificate is rated.

54.411 Recording major repair and alteration operations. The holder of a parachute loft certificate authorized to perform major repair and alteration operations on a parachute canopy, harness, container, accessory, or any combination thereof, shall execute such repair and alteration forms as may be prescribed and furnished by the Administrator and shall deliver a copy of such form to the owner of the parachute.

54.42 Maintenance, personnel, facilities, equipment, and material. The holder of a currently effective parachute loft certificate shall maintain personnel, facilities, equipment, and material at least equal in quantity and quality to those currently required for original issuance of such a certificate and the appropriate ratings.

54.43 Airworthiness requirements for maintenance, repairs, and alterations.

54.430 Quality of maintenance, repairs, and alterations. The holder of a parachute loft certificate shall perform maintenance, repair, and alteration operations in a workmanlike manner and so as to maintain the equipment in, or restore it to, an airworthy condition.

54.431 Materials. The holder of a parachute loft certificate shall use materials in connection with maintenance, repair, and alteration operations of such quality and strength as to be suitable for the purposes used.

54.432 Reporting defects or unairworthy conditions. The holder of a parachute loft certificate shall report upon the applicable forms prescribed and furnished by the Administrator all recurring or serious defects or other unairworthy conditions of parachutes or parts thereof.

54.433 Agencies authorized to perform maintenance, repairs, alterations, and inspections. Maintenance, repairs, alterations, and inspections of certificated parachutes may be performed by:

(1) A certificated parachute technician of appropriate grade and ratings (See Part 25 for service limitations of certificated parachute technicians); or

(2) A certificated parachute loft having an appropriate rating; or

(3) The manufacturer of the parachute or part thereof; or

(4) Another parachute manufacturer deemed competent by the Administrator: *Provided*, That all maintenance, repairs, alterations, and inspections shall be performed in accordance with manuals and specifications approved by the Administrator.\*

\*Manuals and specifications may be issued by a parachute manufacturer or by the Administrator. In either case they must be approved by the Administrator.

(See Regulations page 39)

# Status Of Air Regulations

As of March 1, 1943

## HOW TO OBTAIN PARTS, AMENDMENTS, AND MANUALS

THOSE PARTS AND MANUALS ON WHICH A PRICE IS LISTED IN THE TABULATION WHICH FOLLOWS ARE ON SALE AT THE GOVERNMENT PRINTING OFFICE (SHOWN AS GPO IN TABLE), AND ARE NOT AVAILABLE FOR FREE DISTRIBUTION FROM THE CAA.

The Government Printing Office is the official sales agency for all government publications and is separate and distinct from the CAA and the Department of Commerce. The rules of the Superintendent of Documents require that remittances be made in advance of shipment of publications, either by coupons, sold in sets of 20 for \$1 and good until used, or by check or money order payable to the Superintendent of Documents, Government Printing Office. Currency is sent at sender's risk. Postage stamps, foreign money, and smooth coins are not acceptable. A discount of 25 percent is allowable to book dealers and quantity purchasers of 100 or more publications, on condition that the purchasers will adhere to the public sales price set by the Superintendent of Documents and that publications shall not be overprinted with any advertising matter.

Eventually, all parts and manuals will be placed on sale; meanwhile, those not yet on sale (carrying remark, "Order from CAA only") may be obtained without charge from the CAA upon demonstration of valid interest on the applicant's part.

The following tabulation carries in the right-hand column the numbers of all effective amendments to each part and manual issued subsequent to its publication. Parts and manuals obtained from the CAA will include all effective amendments, but amendments for parts and manuals purchased from GPO must be requested separately from the CAA. When requesting amendments from the CAA, please be sure to state part numbers for which they are desired.

ALL AMENDMENTS TO THE REGULATIONS, AND NOTICE OF NEW PARTS AND MANUALS, ARE PRINTED IN THE CIVIL AERONAUTICS JOURNAL AS RELEASED.

Bound volumes of the complete Civil Air Regulations are no longer available. Parts and amendments are punched for filing in standard three-ring binders.

For your guidance we have listed the parts and manuals applicable to the various airmen certificates issued.

## Pilots:

Parts 01, 20, 60, 501, and manual 60.

## Airline Transport Pilots:

Parts 01, 04, 21, 27, 40, 60, 61, 98, 501, and manuals 04 and 60.

## Lighter-Than-Air Pilots:

Parts 01, 22, 60, 501, and manual 60.

## Aircraft Mechanics:

Parts 01, 04, 15, 18, 24, 501, section 60, 32, and manuals 04, 15, and 18.

## Aircraft Engine Mechanics:

Parts 01, 04, 13, 14, 18, 24, 501 and manuals 04, 14, and 18.

## Parachute Riggers:

Parts 15, 24, and manual 15.

## Air-Traffic Control-Tower Operators:

Parts 26, 60, and manual 60.

## Aircraft Dispatchers:

Parts 27, 40, 60, 61, and manual 60.

## Ground Instructors (rating in Civil Air Regulations):

Parts 01, 20, 51, 60, 501, and manual 60.

## PARTS CANCELED AND UNASSIGNED

Canceled parts 00 and 03 now incorporated in part 501; canceled part 23 now incorporated in part 51; and canceled part 25 now incorporated in part 24. Parts 90-96, inclusive, canceled. All other part numbers not shown are unassigned.

## Civil Air Regulations

### Aircraft

PART NO.	TITLE	DATE	REMARKS	PRICE	EFFECTIVE AMENDMENTS
01	AIRWORTHINESS CERTIFICATES.....	10-15-42	On sale at GPO.....	\$0.05	
02	TYPE AND PRODUCTION CERTIFICATES.....	3-1-41	On sale at GPO.....	.05	
04	AIRPLANE AIRWORTHINESS.....	8-15-42	On sale at GPO.....	.15	04-1, Reg. Ser. 228.
13	AIRCRAFT ENGINE AIRWORTHINESS.....	8-1-41	On sale at GPO.....	.05	
14	AIRCRAFT PROPELLER AIRWORTHINESS.....	7-15-42	On sale at GPO.....	.05	
15	AIRCRAFT EQUIPMENT AIRWORTHINESS.....	11-15-40	In stock; order from CAA only.....	.05	15-1, 15-2.
16	AIRCRAFT RADIO EQUIPMENT AIRWORTHINESS.....	2-13-41	On sale at GPO.....	.05	
18	MAINTENANCE, REPAIR, AND ALTERATION OF CERTIFICATED AIRCRAFT AND OF AIRCRAFT ENGINES, PROPELLERS, AND INSTRUMENTS.....	9-1-42	On sale soon at GPO.....	.05	

### Airmen

20	PILOT CERTIFICATES.....	9-1-42	On sale at GPO.....	\$0.10	20-1, Reg. Ser. 242, 244, 247.
21	AIRLINE TRANSPORT PILOT RATING.....	10-1-42	On sale at GPO.....	.05	21-1, Reg. Ser. 236, 251.
22	LIGHTER-THAN-AIR PILOT CERTIFICATES.....	10-15-42	On sale at GPO.....	.05	Reg. Ser. 247.
24	MECHANIC CERTIFICATES.....	10-1-42	On sale at GPO.....	.05	24-1, 24-2.
25	PARACHUTE TECHNICIAN CERTIFICATES.....	1-21-43	In stock; order from CAA only.....	.05	25-1.
26	AIR-TRAFFIC CONTROL-TOWER OPERATOR CERTIFICATES.....	7-1-42	On sale at GPO.....	.05	27-1.
27	AIRCRAFT DISPATCHER CERTIFICATES.....	9-1-42	On sale at GPO.....	.05	
29	PHYSICAL STANDARDS FOR PILOTS.....	6-1-42	On sale at GPO.....	.05	

### Air Carriers

40	AIR CARRIER OPERATING CERTIFICATION.....	11-1-42	On sale at GPO.....	\$0.10	40-1
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### Air Agencies

50	FLYING SCHOOL RATING.....	11-1-40	On sale at GPO.....	\$0.05	57, 113, 50-3, Reg. No. 216. <sup>1</sup>
51	GROUND INSTRUCTOR RATING.....	7-1-42	On sale at GPO.....	.05	
52	REPAIR STATION RATING.....	10-1-42	On sale at GPO.....	.05	
53	MECHANIC SCHOOL RATING.....	8-1-42	On sale at GPO.....	.05	
54	PARACHUTE LOFT CERTIFICATES AND RATINGS.....	1-21-43	In stock; order from CAA only.....	.05	

No copies available.

### Air Navigation

60	AIR-TRAFFIC RULES.....	7-15-42	On sale at GPO.....	\$0.10	60-1 thru 60-7.
61	SCHEDULED AIR-CARRIER RULES.....	10-15-42	On sale at GPO.....	.10	61-1 thru 61-4.
66	FOREIGN AIR-CARRIER REGULATIONS.....	1-15-42	On sale at GPO.....	.05	

### Miscellaneous

98	DEFINITIONS.....	10-15-42	On sale at GPO.....	\$0.05	
99	MODE OF CITATION OF REGULATIONS.....	11-15-40	In stock; order from CAA only.....		

(Status of Air Regulations continued on following page)

# Status of Air Regulations

(Continued from preceding page)

## Regulations of the Administrator

PART NO.	TITLE	DATE	REMARKS	PRICE	EFFECTIVE AMENDMENTS
501	AIRCRAFT REGISTRATION CERTIFICATES.....	11-1-41	In stock; order from CAA only.....	.....	
503	RECORDATION OF AIRCRAFT OWNERSHIP.....	3-31-43	In stock; order from CAA only.....	.....	
510	GENERAL REGULATIONS, WASHINGTON NATIONAL AIRPORT.....	9-26-41	In stock; order from CAA only.....	.....	
511	GENERAL AERONAUTICAL RULES FOR THE WASHINGTON NATIONAL AIRPORT.....	9-26-41	In stock; order from CAA only.....	.....	
525	NOTICE OF CONSTRUCTION OR ALTERATION OF STRUCTURES ON OR NEAR CIVIL AIRWAYS.....	11-1-41	In stock; order from CAA only.....	.....	1.
531	SEIZURE OF AIRCRAFT.....	12-8-41	In stock; order from CAA only.....	.....	
532	REPRODUCTION AND DISSEMINATION OF CURRENT EXAMINATION MATERIALS.....	1-15-43	In stock; order from CAA only.....	.....	
600	DESIGNATION OF CIVIL AIRWAYS.....	3-1-42	Not published <sup>1</sup> .....	.....	1 through 19. <sup>1</sup>
601	DESIGNATION OF AIRWAY TRAFFIC CONTROL AREAS, ETC.....	1-15-42	Not published <sup>1</sup> .....	.....	1 through 26. <sup>1</sup>

<sup>1</sup> See Air Navigation Radio Aids.

## Civil Aeronautics Manuals

04	AIRPLANE AIRWORTHINESS.....	2-1-41	On sale at GPO.....	\$0.50	Release 50, 97, <sup>1</sup> 117, <sup>1</sup> 140. <sup>1</sup>
14	AIRCRAFT PROPELLER AIRWORTHINESS.....	12-1-38	In stock; order from CAA only.....	.....	
15	AIRCRAFT EQUIPMENT AIRWORTHINESS.....	7-1-38	In stock; order from CAA only.....	.....	Release 62.
16	AIRCRAFT RADIO EQUIPMENT AIRWORTHINESS.....	2-13-42	In stock; order from CAA only.....	.....	
18	MAINTENANCE, REPAIR, AND ALTERATION OF CERTIFICATED AIRCRAFT AND OF AIRCRAFT ENGINES, PROPELLERS, AND INSTRUMENTS.....	6-1-41	On sale at GPO.....	.50	
50	FLYING SCHOOL RATING.....	12-40	In stock; order from CAA only.....	.....	Release 77.
52	REPAIR STATION RATING.....	2-41	In stock; order from CAA only.....	.....	
53	MECHANIC SCHOOL RATING.....	5-40	In stock; order from CAA only.....	.....	
60	AIR TRAFFIC RULES.....	11-15-42	On sale at GPO.....	.20	

<sup>1</sup> Only pertinent pages furnished.

## Regulations

(Continued from page 37)

54.574 *Drop testing of parachutes.* The holder of a parachute loft certificate shall drop test any major repaired or altered parachute canopy, harness, container, accessory, or any combination thereof, when in the opinion of the inspecting certificated parachute technician such repairs or alterations may have affected its structural, functional, or other airworthiness characteristic. Drop tests shall be conducted in accordance with the following conditions:

54.540 *Functional tests.* If it is necessary to determine the functional characteristics of the entire assembly, such assembly shall be drop tested with a 150-pound dummy man (not including the weight of the parachute) at an indicated air speed of 70 miles per hour and a minimum altitude of 500 feet above the ground.

54.541 *Strength tests.* If it is necessary to determine the material values in the entire assembly, such assembly shall be drop tested with a 190-pound dummy man (not including the weight of the parachute) at an indicated air speed of 120 miles per hour and a minimum altitude of 500 feet above the ground.

54.542 *Airworthiness tests.* If it is necessary to determine material airworthiness of the entire assembly prior to repairs of any kind, such assembly shall be drop tested with a 190-pound dummy man (not including the weight of the parachute) at an indicated air speed of 120 miles per hour and at a minimum altitude of 500 feet above the ground.

54.543 *Agencies authorized to perform drop testing operations.* Parachute drop testing operations shall be performed only by:

- (1) The manufacturer of the parachute; or
- (2) Another parachute manufacturer deemed competent by the Administrator; or
- (3) A certificated parachute loft having an appropriate rating.

## DEFINITIONS

54.5 *General.*

54.50 *Parachute.* A unit comprised of a canopy, harness, container, and accessories, so arranged in combination as to allow instantaneous release of a folded canopy by means of mechanical control or manually operated release device, such combination to be approved by the Administrator.

54.500 *Canopy.* That part of a parachute combination which is designed to retard the descent of a falling body or object.

54.501 *Harness.* That part of a parachute combination designed to enfold or carry the

body or object and to serve as an attachment between the canopy and its intended cargo.

54.502 *Container.* That part of a parachute combination designed to hold or contain a folded canopy.

54.503 *Accessory.* That part or parts of a parachute combination necessary to complete a unit as designed by the manufacturer and approved by the Administrator.

54.51 *Manufacturer.* (1) The holder of a type certificate for the manufacture of a canopy, harness, container, or accessory or any combination thereof or of the current rights under licensing arrangements to the benefits of such type certificate; or

(2) The maker of a part or accessory of a certificated parachute: *Provided,* That such maker shall have in his employ a properly certificated parachute technician in direct charge of maintenance, repair, or alteration operations.

54.52 *Routine maintenance.* An operation limited to the packing of parachutes and the replacement of small standard parts not involving complex assembly operations.

54.53 *Repairs.*

54.530 *Minor repairs.* Elementary repair operations executed in accordance with standard practices and not within the definition of major repairs.

54.531 *Major repairs.* Complex repair operations of vital importance to the airworthiness of a parachute.

54.54 *Alterations.* Any appreciable change in the design or an exchange of parts in a parachute canopy, harness, container, accessory, or any combination thereof.

54.540 *Minor alterations.* (a) An alteration having no appreciable effect on the structural, functional, or other characteristic affecting the airworthiness of a parachute canopy, harness, container, accessory, or combination thereof, individually or as a unit;

(b) An alteration for which specific plans and instructions have been approved by the Administrator and which can be executed by minor elementary operations.

54.541 *Major alterations.* All alterations not within the definition of minor alterations.

54.55 *Overhaul.* Maintenance, inspection, repairs, and alterations performed in accordance with manuals and specifications, and approved by the Administrator.

## AMENDMENT 60-7

Adopted: January 21, 1943

Effective January 21, 1943:

Part 60 of the Civil Air Regulations is amended as follows:

## Aeronautical Legislation

### Introduced

H. R. 1655—AIRPORT ACQUISITION; bill to provide for the acquisition of Mueller's airport, Revere, Mass., for the use of the War Department; referred to the Committee on Military Affairs.

H. R. 1720—AIR MAIL SERVICE; bill to extend air mail services to all persons equally and to provide for the transportation of mail by air without surcharge; referred to the Committee on the Post Office and Post Roads.

S. 781—AVIATION ACADEMIES; bill to provide for the establishment and operation of a Military Aviation Academy and a Naval Aviation Academy for training persons for service as commissioned officers in the military and naval forces; referred to Committee on Military Affairs.

H. R. 1992—AIR INSURANCE; bill to amend the Civil Aeronautics Act of 1938 by providing for air and war-risk insurance; referred to the Committee on Interstate and Foreign Commerce.

### Passed

S. Res. 60—AIRPLANE ACCIDENTS; bill continues the authority to investigate airplane accidents.

H. R. 1670—CPT ACT, 1939; amendment to section 2 of the Civilian Pilot Training Act of 1939.

Strike section 60.5721 (b) and insert in lieu thereof the following:

60.5721 (b) *Effect a landing.* The pilot may effect a landing at the nearest suitable airport at which favorable weather conditions exist.

## AMENDMENT 61-4

Adopted: February 8, 1943  
Effective February 8, 1943:

Section 61.77201 (b) of the Civil Air Regulations is amended to read as follows:

61.77201 (b) *Landing.* Landing may be made at the nearest suitable airport at which favorable weather conditions exist.

